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Standard Design for Modernizing Type 1D63 [DIP-30] (cont'd)

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Electrical equipment layout according to schematic diagram
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AVAILABLE: Library of Congress GO/wde
7-15-53

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ZABORENKO, K.B.; ATIF ALIAN

Apparatus with the automatic recording of activity for the continuous extraction of radioactive isotopes. Zav.lab. 28 no.11:1380-1382 '62. (MIRA 15:11)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Extraction apparatus) (Radioisotopes)

ZABORENKO, K. B.

USSR/Nuclear Physics - Isotopes Feb 49
Nuclear Physics - Iodine, Isotopes of

"The Isotope Exchange of Iodine Between KI and KIO_3 in Water Solutions," K. B. Zaborenko, M. B. Neyman, V. I. Samsonova, Moscow State U imeni M. V. Lomonosov, 4 pp

"Dok Ak Nauk SSSR" Vol LXIV, No 4

Discovers marked exchange of iodine between KI and KIO_3, using a long-lived iodine isotope and conducting the reaction at temperatures higher than 100°. Submitted 20 Nov 48.

27/49T90

ZABORENKO, K. B.

ZABORENKO, K.B.,; BARANOV, V.I.; professor, redaktor.

[Radioactivity] Radioaktivnost'. Pod redaktsiei V.I.Baranova. Moskva, Gos. izd-vo tekhniko-teoreticheskoi lit-ry, 1953. 63 p. (Nauchno-populiarnaia biblioteka, no. 54) (MLRA 7:5)

(Radioactivity)

ZABORENKO, K. B.

AID P - 903

Subject : USSR/Nuclear Power

Card 1/1 Pub. 135 - 13/19

Author : Zaborenko, K. B.

Title : Radioactivity

Periodical : Vest. vozd. flota, 5, 73-75, My 1954

Abstract : This is a review of a booklet (64 pages) published in 1953 by the State Publishing House of Technical and Scientific Literature, in the series "Popular Scientific Literature". The author outlines the history of the discovery of radioactivity and of the artificial transformation of elements. The booklet is reviewed by Gladkov, K., Engineer.

Institution : None

Submitted : No date

~~21(6)~~ PHASE I BOOK EXPLOITATION SOV [redacted] 1264

Zaborenko, Kaleriya Borisovna

Radioaktivnost' (Radioactivity) 2d ed. enl. Moscow, Gostekhizdat, 1958. 79 p. (Series: Nauchno-populyarnaya biblioteka, vyp. 54) 75,000 copies printed.

Ed. (Title page): Baranov, V. I., Prof., Honored Scientist; Ed. (inside book): Katrenko, D.A.; Tech. Ed.: Akhlamov, S.N.

PURPOSE: The book is intended for the general reader.

COVERAGE: The book gives a brief history of the discovery of radioactive elements and a discussion of artificial transmutation of elements, production of new elements, and release of atomic energy. No personalities are mentioned. No references are given.

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TM/wde
3-23-59

ZABORENKO, K. B.

AUTHORS: Baranov, V. I., Zaborenko, K. B., Korobkov, V. I., 89-2-23/35

TITLE: The Use of Nuclear Photoemulsions in the Determination and Evaluation of the Radiochemical Purity of α-Emitting Isotopes (Primeneniye yadernykh fotoemul'siy dlya opredeleniya i otsenki radiokhimicheskoy chistoty α-izluchayushchikh izotopov).

PERIODICAL: Atomnaya Energiya, 1958 Nr 2, pp. 199-202 (USSR)

ABSTRACT: The nuclear photoplate НИКФИ 1-2 with an emulsion thickness of 50 μ was used as α-indicator. For calibration of this plate the dependence of the α-range in the emulsion on the energy of the α-particles was determined for U^{238}, U^{234}, Th^{232}, Po^{210}, Bi^{212}-Po^{212}. The recipe of production for each one of these solutions is given. The soaking of the photoplates with the solutions must be performed according to a specially elaborated recipe. The average range of the α-particles was calculated with the aid of the formula:

$$\bar{R} = \frac{\sum \mu_i n_i}{\sum n_i}$$

where μ = the length of traces in μ, and n_i the number of traces with the length μ i.

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The Use of Nuclear Photoemulsions in the Determination and Evaluation of the Radiochemical Purity of α-Emitting Isotopes. 89-2-23/35

For the calibration of the plate the following ranges were measured:

Th^{232}	$14,9 \pm 1,5\mu$
U^{238}	$16,4 \pm 2,6\mu$
Po^{210}	$22,7 \pm 2,27\mu$
Bi^{212}	$27,7 \pm 3,9\mu$
Po^{212}	$47,2 \pm 4,7\mu$

These ranges are in good agreement with the corresponding values for Ilford C-2 plates. The measurement $Th^{230}(I_0)$ is described as an example of identification. The range of these α-particles was determined with $18,87 \pm 0,03\mu$, the Th^{230}-solution not having been subjected to any special purification. When the Th^{230}-solution is electrolytically purified, which causes a reduction of foreign bodies to 5%, the measurement of range yield $\overline{R} = 18,94 \pm 0,03\mu$. Both measurements are in good agreement. There are 5 figures, 1 table, 11 references, 5 of which are Slavic.

SUBMITTED: January 4, 1957

AVAILABLE: Library of Congress

Card 2/2 1. Alpha particles-Photographic analysis

67631 SOV/81-59-14-50941

23.5000

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 14, pp 439 - 440 (USSR)

AUTHORS: Fridman, L.M., Zaboronko, K.D., Nekhlin, Ya.G.

TITLE: The Investigation of the Composition of Residual Substances in Photolayers of Processed Movie Films by Labeled Atoms

PERIODICAL: Tr. Vses. n.-i. kinofotoin-ta, 1958, Nr 3(26), pp 4 - 10

ABSTRACT: A method of radioactive indicators has been described for determining residual substances in processed movie films after fixation and bleaching. Two processes of treating movie films have been investigated which are of interest in relation to residual substances which are important in the regeneration of faded film copies. The regeneration of the color of the pictures is carried out by color development of the lower layer by a special color developer. It has been established by means of $Na_2S^{35}SO_3$ that under the conditions of the treatment of movie films by the accelerated method a considerable quantity of complex compounds of sodium and silver thiosulfate remains in the layer, which are distributed proportional to the density of the picture, mainly in the lower layer. The formation of complexes in the lower layer is caused by an insufficient

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The Investigation of the Composition of Residual Substances in Photolayers of Processed Movie Films by Labeled Atoms

$Na_2S_2O_3$ content in the treatment by the accelerated method. In the films which are treated by two fixations a formation of complex compounds is not observed, which explains the practical impossibility of regenerating the color of film copies prepared by the method with two fixations and the good regeneration of the color of film copies treated by the accelerated method. It has been shown by means of labeled $K_3Fe(CN)_6$ that in the treatment of the layers by the method with two fixations as well as by the accelerated method residual silver ferrocyanide is not contained in the layers of the film. But the emulsion layers have the property of retaining $K_3Fe(CN)_6$ in quantities from 0.2 to 0.4 mg per 1 m of movie film.

G. Sennikov

ZABORENKO, K. B.

AUTHORS: Baranov, V. I., Babeshkin, A. M., Zaborenko, K. B. 78-1-3/43

TITLE: The Problem of Behavior of Natural Radioactive Isotopes (K voprosu o povedenii yestestvennykh radioaktivnykh izotopov).

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 1, pp. 16-19(USSR).

ABSTRACT: The explanation of the migration mechanism of radioactive elements in nature is one of the most important problems of modern science. From their quantitative relations we can learn the peculiarities of the reaction of single elements (reference 1). According to Starik's theorem (reference 2) their reaction is determined by their form of occurrence. The atoms of mother-elements (uranium, thorium) form part of the crystal lattice of the initial compounds. The atoms of the products of radioactive decomposition have chemical and crystallo-graphic properties different from the latter. The atoms of the decomposition products are capable of leaving their position while loosing recoil energy and to enter the widely spread capillary network which is filled with water. The further fate of the recoil atoms is determined by diffusion processes. The radium isotopes are lixiviatable to a large extent as radium forms always a decomposition product at the ratio mother-substance -uranium, which forms part of the crystal lattice. The authors formed the task of studying the problem mentioned in the

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title for that case in which the isotopes are crystal forming. They should furtheron be compared with the reaction of the decomposition products (e. g. thorium isotopes) the crystal lattice of which is different. As for the solution of this problem natural formations can not be used the authors chose barium compounds the crystal lattice of the radium compounds of which are isomorphous ($BaSO_4$, $BaCrO_4$, $BaCO_3$).

These salts were precipitated from solutions which contained Ra-226 and Ra-228. Because of radioactive transformations the isotopes Th-228 and Ra-224 are produced from them. According to table 1 Th-228 passes in all cases to the solution to a much smaller extent than radium isotopes. The transition of the radium isotopes Ra-224, Ra-226 and Ra-228, which from the beginning took part in the crystal lattice of the compound, to the solution follows the Khlopin theorem. Ra-224, which developed because of radioactive transformations in all cases passes over to the solution to a greater extent than Ra-228 and Ra-226 (table 1). For the salts investigated here the maximal ratio

$$\frac{\text{Ra-224}}{\text{Ra-228}} \text{ or } \frac{\text{Ra-224}}{\text{Ra-226}},$$

referring to the monolayer, can reach the remarkable value ~25. Should the exchange process cover a number of layers which is equal to the range the ratio must be:

$\frac{Ra\ 224}{Ra\ 228} = 1$. As can be seen from table 2 this ratio decreases in the solution with the increasing number of layers entering the exchange. The ratio between radioactive isotopes, passing over to the solution, depends on a number of factors: the range of the recoil atom of the isotope forming, the size of particles, the gaps between the particles, the composition and the thickness of the medium in the gaps, the time which passed since the formation of the surface, the decay constant of the isotope forming and the number of the layers of the solid substance taking part in the exchange. The experimental results are in good agreement with the mechanism proposed.
There are 3 tables, and 6 Slavic references.

ASSOCIATION: Moscow State University imeni M. V. Lomonosov, Laboratory For Radiochemistry of the Chemistry Dept. (Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova, Laboratoriya radiokhimii khimicheskogo fakul'teta).

SUBMITTED: June 18, 1957.
AVAILABLE: Library of Congress.
Card 3/3

ZABORENKO, K. B.

AUTHORS: Baranov, V. I., Zaborenko, K. B., Korobkov, V. I. 78-1-34/43

TITLE: Application of the Radioautographic Method for the Control of Radiochemical Purity of α-Radioactive Substances (Primeneniye metoda radioavtografii dlya kontrolya radiokhimicheskoy chistoty α-radioaktivnykh izluchateley)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 1, pp. 184-186 (USSR)

ABSTRACT: After a short review on the history of this method since 1896, the authors describe the material used at present for the application of this method and accentuate its advantages. In the present paper the problem was set to control Th^{230}(Io), which is used for determining the age of young geological formations, for the study of the migration of Th and for other purposes. The possibility of such a control may be proved with 2 Th^{230} preparations: 1) a preparation consisting of a natural raw material, virtually free from Thorium (reference 2), and 2) a preparation obtained from the latter by special purification

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Application of the Radioautographic Method for the Control of Radiochemical Purity of α-Radioactive Substances

78-1-34/43

by means of electrolysis. For photoplates NIKFI, Type A-2 a graduation curve of the dependence of the range of α-particles in the emulsion of the radiation energy was constructed. For this purpose solutions with isotopes

$U^{238} + U^{234}$, Th^{232}, Po^{210}, $Bi^{212} + Po^{212}$ were used in a radiochemically pure condition. Impregnation methods of the photoplates are described. The plates were investigated microscopically. The table shows the results of this investigation compared with those of two other authors. The obtained data were used to compile a graduation curve. Figure 1 shows the average range of α-particles in the emulsion R_μ as a function of its energy E. Figure 2 shows the dependence of $\tilde{R}_\mu$ of the range of the α-particles in air, R_{air}. From the values of the average range the slowing-down power (t.s.) of the photoemulsion can be computed according to the formula t.s. = $R_{air} : R_{Em}$, where R_{Em} = average range of α-particles in the emulsion per cm. The t.s. of the emulsion of the applied plates amounted to from 1634 ± 11 to 1701 ± 6. Before radiographing both preparations were stored for a

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78-3-4-35/38

AUTHORS: Baranov, V. I., Babeshkin, A. M., Zaborenko, K. B., Pirozhkov, S. V.

TITLE: The Mechanism of the Migration of Radium- and Thorium Isotopes (O mekhanizme migratsii izotopov radiya i toriya)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 4, pp. 1054-1059 (USSR)

ABSTRACT: The reaction of radium- and thorium isotopes, produced by the radioactive transformation in the interaction with soluble compounds the crystal lattices of which are isomorphous with radium or thorium, was investigated. The experiments were carried out with barium salts isomorphous with radium as well as with cerium salts, like CeO_2 and $Ce_2(C_2O_4).10\ H_2O$ isomorphous with the thorium isotope Th-228. The time dependence of the desorption of Ra-228, Ra-224 and Th-228 from barium carbonate in barium chloride solution was determined. The desorption of radium is greater than that of thorium. Furthermore, the desorption of radium- and thorium isotopes in hydrochloric acid and aluminum chloride solutions was investigated.

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78-3-4-35/38

The Mechanism of the Migration of Radium- and Thorium Isotopes

The desorption of Th-228 acquires the following order depending on the solution medium: $H^+ > Al^{3+} > Ba^{2+}$. Summarizingly it was stated that the thorium isotopes formed in the decay less easily pass over into the solution than radium isotopes, independently of the fact, whether the solid phase from which they emerge is isomorphous or not. This reaction of Th-228 is caused by its characteristic chemical features and not by the crystal form of the initial compounds. There are 7 tables and 19 references, 17 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: February 11, 1957

Card 2/2

SOV/78-3-9-31/38

AUTHORS: Baranov, V. I., Babeshkin, A. M., Zaborenko, K. B.

TITLE: The Mechanism of Migration of Radioactive Isotopes Originating in α-Ray Disintegration (O mekhanizme migratsii radioaktivnykh izotopov, obrazuyushchikhsya v rezul'tate α-raspada)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 9, pp 2200-2209 (USSR)

ABSTRACT: The paper under review investigates the laws governing the concentration and distribution of radioactive isotopes in solids originating in α-ray disintegration. The influence exerted by various factors upon the degree of transition of radioactive isotopes from the solid to the liquid phase was examined. The experiments and comparisons were carried out with radium isotopes. The ratio between radioactive isotopes that pass from the solid phase into solution depends largely on the number of layers that take part in the exchange. The results of the experiments show that the degree of transition of radium isotopes into solution is larger in the case of Ra^{224} than in the case of Ra^{226}. If the number of layers taking part in the exchange increases the degree of transition of

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The Mechanism of Migration of Radioactive Isotopes Originating in a-Ray Disintegration

radium isotopes passing from the solid phase into solution decreases.
There are 1 figure, 9 tables, and 8 references, 7 of which are Soviet.

SUBMITTED: April 20, 1957

Card 2/2

ZABOKENKO, K. B.

BARALIOV, V.I.; ZABOKRENKO, K.B.; KOROBKOV, V.I.

Use of nuclear emulsions to determine the radiochemical purity of alpha-emitters. Atom.energ. 4 no.2:199-202 F '58. (MIRA 11:4)
(Alpha rays) (Photography, Particle track)

SOV/32-24-8-27/43

AUTHORS: Babeshkin, A. M., Baranov, V. I., Zaborenko, K. B.

TITLE: The Measurement of Small Amounts of Radium and Thorium Emanation With the Impulse Ionization Chamber (Izmereniye malykh kolichestv emanatsiy radiya i toriya impul'snoy ionizatsionnoy kameroy)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 8, pp. 996-997 (USSR)

ABSTRACT: Single α-particles are usually counted in gases such as argon and nitrogen. Investigations have shown that an ionization chamber filled with air can also be used for this purpose. The authors have for several years measured radium and thorium emanations using an impulse amplifier of the **D A** type. The sample containing Ra-226 was dissolved in Trilon-B, which was then aerated, and the radon was then determined in the ionization chamber. The thorium was then measured in an air stream, **as usually.** The experimental procedure is given, and it is mentioned that the measurements were obtained with a **D** type apparatus. S. V. Pirozhkov and A. P. Dekartov carried out the test measurements on the apparatus. In these test measurements and in the experimental measurements themselves

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The Measurement of Small Amounts of Radium and Thorium Emanation With the Impulse Ionization Chamber

a counting velocity of 300 - 550 impulses/minute (standard deviation: about ± 1 %) was observed. The sensitivity of the method is indicated by the amount of radium determined in 24 hours $(4 \pm 1,6) \cdot 10^{-14}$ g. There are 5 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

Card 2/2

5(2)

AUTHORS: Zaborenko, K. B., Kolosov, I. V., Fomin, V. V.

SOV/20-123-4-31/53

TITLE: Determination of the Composition and the Stability Constants of Lead Chloride Complexes by Experiments on the Distribution of the Radioactive Isotope Between Precipitate and Solution (Opredeleniye sostava i konstant ustoychivosti khloridnykh kompleksov svintsa iz opytov po raspredeleniyu radioaktivnogo izotopa mezhdu osadkom i rastvorom)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 4, pp 688 - 690 (USSR)

ABSTRACT: A true thermodynamic equilibrium can be obtained in the distribution of a trace element(m)between the precipitate and the solution of an isomorphous compound of the macrocomponent (M) (Ref 1). The authors considered the co-crystallization to be a reversible exchange reaction of ions of the same valence and derive the equilibrium constant of this reaction (Equation 1). However, all activity coefficients are constant in the case of a low concentration of the microcomponent (m) in the solid phase and at an ionic strength of the solution

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which is kept practically constant. For this reason, the concentration can be substituted for the activities, by including all activity coefficients in the equilibrium constant. The equation (1) may also be used in the case of the distribution of isomorphous ions of the macrocomponent between the surface and the solution (primary ion exchanging adsorption. It was proved that (Ref 1) the presence of ions forming complexes with M or m changes the distribution "constant". Furtheron the value calculated according to equation (1) is called distribution coefficient, with the analytical concentration determined experimentally being substituted for the equilibrium concentration. The change of this coefficient in dependence on the concentration of the complex forming ion points to the existence of complex ions in the solution (examples are given in references 2,3). It can be proved that the change D is entirely determined by the change of the activity. The authors suggested a method of calculation as mentioned in the title. They investigated the distribution in

Determination of the Composition and the Stability Constants SOV/20-123-4-31/53
of Lead Chloride Complexes by Experiments on the Distribution of the Radio-
active Isotope Between Precipitate and Solution

the system $SrSO_4$-Pb^{212}-SO_4-HCl (methods of references 1,4,5).
If the experimental results are expressed by the formula

$D = \frac{x}{y} \quad \frac{1-y}{1-x}$ (2), where x and y are the shares of the micro and macrocomponents in the precipitate, and 1-x and 1-y the corresponding shares in the solution, then $D_o = K$ in the absence of the complex former; if, however, in the presence of the complex former the analytical concentration is substituted in formula (2) the distribution coefficient will be a function of the concentration of the ions of the complex former. After various calculations the authors obtained the formula for the distribution coefficient:

$$\frac{D_o}{D} - 1 = \sum \beta_j [Cl']^j \quad (5).$$

As may be seen, equation (5) is similar to the known equations for ion exchange

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Determination of the Composition and the Stability Constants of Lead Chloride Complexes by Experiments on the Distribution of the Radioactive Isotope Between Precipitate and Solution SOV/20-123-4-31/53

and extraction. There are 10 references, 7 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

PRESENTED: July 12, 1958, by V. I. Spitsyn, Academician

SUBMITTED: July 5, 1958

Card 4/4

ZABORENKO, K.B.; BABESHKIN, A.M.; BEYEVSKA, V.A.

Application of the emanation method in the study of processes taking place in solids during heating. Radiokhimiia 1 no.3: 336-345 '59. (MIRA 12:10)
(Chemistry, Physical and theoretical)
(Barium sulfate) (Barium carbonate)

ZABORENKO, K.V.; ZAVAL'SKAYA, A.V.; FOMIN, V.V.

Ion exchange determination of the composition and stability constants of cerium oxalates. Radiokhimiia 1 no.4:387-390 '59.
(MIRA 13:1)

(Cerium oxalate)

ZABORENKO, K. B.

21(8) 5(0)

AUTHOR: Lapitskiy, A.V. SOV/55-59-3-29/32

TITLE: The First All-Union Conference of Universities and Colleges on Radiochemistry

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii. 1959. Nr 3, pp 221-225 (USSR)

ABSTRACT: This conference was convened by the initiative of the laboratoriya radiokhimii khimicheskogo fakul'teta MGU (Laboratory of Radiochemistry of the Department of Chemistry of Moscow State University) and was held in Moscow from April 20 to April 25, 1959. It was attended by professors, teachers, and scientific collaborators of 32 universities and colleges of the Soviet Union. In his opening address, An.N. Nesmeyanov, Doctor of Chemical Sciences, stressed the importance of radiochemistry. 30 lectures were delivered by members of Moscow State University: Laboratoriya yadernoy fiziki (Laboratory of Nuclear Physics): B.P. Rudenko, A.I. Sevast'yanov: Production of Beryllium-7 by the Reaction (T,2n); I. Stary, B.P. Rudenko: Production of Radioactive Isotopes by Extraction as β-Diketonates. Laboratoriya radiokhimii (Laboratory of Radiochemistry): An.N. Nesmeyanov, B.M. Korolev, L.A. Baranov: Separation of Radioactive Isotopes in the Irradiation of Colloids; An.N. Nesmeyanov, Yu.A. Borisov, E.S. Filatov, V. Kondratenko, Chzhan Tszya-yan, K. Panek, B. Shukla: Secondary Reactions of the Recoil Atoms

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^{80}Br and ^{82}Br in Methyl Bromides; B.G. Dzantiyev, I.M. Barkalov, V.V. Khrapov: Reactions of "Hot" Sulfur- and Nitrogen Atoms With Hydrocarbons; B.Z. Iofa, L.V. Bobrov, A.N. Nator: The State of Radioactive Isotopes in Extremely Dilute Solutions; M.S. Keruklova, I.V. Melikhov: General Theory of the Coprecipitation of Radioactive Elements With Non-isomorphous Crystalline Precipitates; A.V. Lapitskiy, I.A. Savich, Chzhuan Ts-ki: Coprecipitation of Protactinium With Complex Compounds of Ti, Nb and Ta; V.M. Fedoseyev, W.T. Ivanenkov, V.N. Bochkarev: Application of Radioactive Paper Chromatography; K.B. Zaborenko, A.M. Babeshkin, B.I. Melikhov: Accumulation and Diffusion of Recoil Atoms on the Basis of the Example Ra^{224} and Rn^{220}; K.B. Zaborenko, A.M. Babeshkin, V.A. Beyevskaya, I.V. Melikhov: Application of the Emanation Method for the

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Investigation of the Transformation of Solids; V.I. Spitsyn, K.B. Zaborenko, A.M. Babeshkin, K.A. Radicheva: Transformation of Heteropoly-compounds; K.B. Zaborenko, A.M. Babeshkin, I.V. Kovalenko: Geochemistry of Radium; K.B. Zaborenko, V.I. Korobkov: Microanalytical Determination of Uranium by Means of Nuclear Emulsions. An.N. Nesmeyanov, Do Dyk-Man: Partial Vapor Pressure of Co in Alloys With Ni; Yu.A. Priselkov, Yu.A. Sapozhnikov, A.V. Tseplyayeva, V.V. Karelin: The Behavior of a Molecular Metal Beam in the High-frequency Field; I.V. Golubtsov, A.V. Lapitskiy, V.K. Shiryayev: Vapor Pressure of Niobium Dioxide; I.V. Golubtsov, Yu.A. Lebedev, Ye.K. Bakov: Various Constructions of the Scintillation Attachment to the Apparatus of the Type B. Kafedra analiticheskoy khimii (Chair of Analytical Chemistry). I.P. Alimarin, N.P. Borzenkova: Niobium^{95} as a Radioactive Tracer; I.P. Alimarin, T.A. Belyavskaya, Hu Bin-ven': Sorption of Zr by Ion Exchangers; A.I. Busev, V.M. Byr'ko: The Use of Complex Pyrazolindithiocarbamates in Radiometry. Kafedra neorganicheskoy khimii (Chair of Inorganic Chemistry): Ye.A. Ippolitova, Yu.P. Simanov, L.M. Kovba, G.P. Polunina, I.A. Sereginlova: Uranates of Some Bivalent Metals;

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V.S. Kovarina, O.G. Nemkova: Uranium Compounds With Acids of Pentavalence P; V.I. Spitsyn: The Influence of the Radioactive Radiation of Solids on Their Physico-chemical Properties; I.Ye. Mikhaylenko, V.I. Spitsyn: Isotope Exchange in the System $K_2SO_4 - SO_3$ at High Temperature. Kafedra khimicheskoy kinetiki (Chair of Chemical Kinetics): I.V. Berezin, V.L. Antonovskiy, N.F. Kazanskaya: Application of Tritium for the Purpose of Determining the Velocity Constants of the Separation of Organo-hydrogen Compounds. An.N. Nesmeyanov delivered a detailed lecture on the Methodology of Radiochemical Instruction at the chemical departments of universities.

ZABORENKO, K. B.

GINZBURG, F.L.

21 (0), 5 (0)

AUTHOR: Shchebetkovskiy, V. N. SOV/89-7-2-17/24

TITLE: All-Union Symposium on Radiochemistry (Vsesoyuznyy simpozium po radiokhimii)

PERIODICAL: Atomnaya energiya, 1959, Vol 7, Nr 2, pp 175-176 (USSR)

ABSTRACT: A symposium was held in Leningrad from 3 to 5 March 1959. More than 200 participants from different institutes in Moscow, Leningrad, Kiyev, Novosibirsk, Tbilisi and Gor'kiy attended it. Twentyeight papers were read. The following are mentioned: I. Ye. Starik: On the problem of the molecular state of micromasses of radioactive elements in solutions; I. Ye. Starik, N. I. Ampelogova, F. L. Ginzburg, L. I. Il'menkova, I. A. Shul'skiy, L. D. Sherdin: Condition of radioactive elements occurring in microconcentrations of solutions (Zr, Am, Pa, Po). M. N. Yakovleva, M. A. Lurshalina: Application of the dialysis method for examination of uranium carriers in natural bodies of water. V. I. Paramonova, Ye. F. Latysheva: Complex formation of the multivalent ruthenium with chlorine ions. K. B. Zaborenko, A. V. Zaval'skaya, V. V. Fomin: Determination of the composition and the instability constants by ion exchange of the cerium oxalate complexes. A. I. Moskvin: Complex formation of plutonium and americium with the anions of

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ethylene diamine tetra acetic acid (EDTA) and oxalic and phosphoric acid. A. V. Trofimov, L. N. Stepanova: A new method for the determination of ion charges of radioactive elements in solutions by application of ion exchanging resins of different swelling capacities. N. B. Vysokoostrovskaya, A. V. Trofimov, B. N. Nikol'skiy: Confirmation of the non-existence of complex formation between potassium and EDTA by application of the ion exchange and the potentiometric methods. V. M. Vdovenko, Ye. A. Smirnova: Determination of the conditions of compounds to be extracted in the organic phase (hydration of uranyl nitrate with ester). V. M. Vdovenko, N. P. Aleksayeva: Degree of hydration of nitric acid in dibutyl ether of the diethylene glycol. V. M. Vdovenko, A. S. Krivokhatskiy: Degree of solvation of the nitric acid in the dibutyl ether of the diethylene glycol. A. K. Lavrukhina: Determination of the dependency of the distribution coefficients between the organic and the watery phases in order to determine the condition of the substance in the solution and to fixate the concentration range at which complex formation starts. V. I. Kuznetsov, P. D. Titov lectured on extraction of hexavalent tungsten with aniline from hydrochloric media. An. N. Nesmeyanov on substitution of hydrogen in benzol by the recoil

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atoms P^{32}, As^{76} and Sb^{124}. B. G. Dzantiyev lectured on the recoil atoms from the reactions of $Li^{6}(n,\alpha)T$, $N^{14}(n,p)C^{14}$ in a medium of cyclic hydrocarbons. V. I. Antipukhin lectured on the influence of the NO_3 and H^+ ions on the reduction velocity of hexavalent plutonium under the influence of its own oxidation. In the course of thorough discussions it was established that the comprehension of the condition of radioactive elements in solution are of eminent importance for the whole range of radio chemistry. More studies have to be made in this field as were made before. A better coordination of all the institutes which are occupied with this problem will yield good results in the future.

25

ZABORENKO, K.B.; KOROBKOV, V.I.

Method of determining small amounts of α-radioactive substances with the use of nuclear photoemulsions. Radiokhimiia 1 no.6:724-727 '59. (MIRA 13:4)
(Photographic emulsions) (Alpha rays)

ZABORENKO, K.B.; BABESHKIN, A.M.; KOVALENKO, I.V.

Emanation and leaching of radium isotopes from monazite. Radiokhimiia 1 no.6:738-741 '59. (MIRA 13:4)
(Radium--Isotopes) (Monazite)

ZABOHENKO, K.B.; BABESHKIN, A.M.; AUL'CHENKO, I.S.

Mechanism of the concentration and separation of recoil atoms in the systems solid phase - gas and solid phase - solution. Radiokhimiia 1 no.6:742-746 '59. (MIRA 13:4)
(Radon--Isotopes) (Radium--Isotopes)

ZABORENKO, K. B., BABESKHIN, A. M. (USSR)

"Influence of the Energy of Recoil of Nuclear Transformations in Solids on the Distribution of Natural Radioactive Isotopes."

paper submitted for the Symposium on the Chemical Effects of Nuclear Transformation (IAEA) Prague, 24-27 Oct. 1960.

30665

S/153/60/003/02/13/034
B011/B003

5.4110

AUTHORS: Zaborenko, K. B., Babeshkin, A. M., Melikhov, L. L.

TITLE: Application of the Emanation Method for the Investigation of Processes Occurring With the Solid Substance on Heating

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1960, Vol. 3, No. 2, pp. 288-292

TEXT: In the paper under review the authors attempted to clarify some phenomena which influence the separation of emanation. They constructed an improved apparatus for the study of transformations of solid bodies by means of the emanation method. The apparatus was designed on the basis of the one previously described (Refs. 3,5). For automatic recording of the measurement results a converter was connected to the electromechanical counter (Type PS-64). A zero-current relay which controlled the printing chronograph was installed at the output of the device. A connection in series of two converters enabled

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S/153/60/003/02/13/034
B011/B003

Application of the Emanation Method for the Investigation of Processes Occurring With the Solid Substance on Heating

the recording of the instant of the pulse arrival on the chronograph; these pulses corresponded to one of the conversions (1, 4, 16, 256, 1,024, 4,096). A special small-volume chamber was devised in order to study the rapid transformations with time of the emanation of preparations. The furnace temperature was controlled by means of a reconstructed apparatus of type EPP-09. The character of the polythermal lines of emanation is determined by the chemical nature of the substance to be investigated, but depends on a number of factors. The temperature intervals in which the effects were observed on the emanograms are determined by the chemical nature and by the structure of the substance; they are, however, dependent on the rate of the temperature change except at 2 - 5 degrees/min. The shape of the polythermal lines is not only influenced by the size of particles of the powder sample, but also by the production conditions of the solid substance, i.e., by the true structure of its crystals. The emanation of preparations with a different pre-treatment may differ considerably. Barium metatitanate met the requirements excluding these disadvantages. The mother elements of the thorium and radium emanations enter the

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Application of the Emanation Method for the Investigation of Processes Occurring With the Solid Substance on Heating

S/153/60/003/02/13/034
B011/B003

crystal lattice of the barium titanate isomorphously. Thus, possible side-effects are eliminated. Barium metatitanate was prepared from barium carbonate which contained mesothorium-1 and decay products. Polythermal lines of the formation of the barium carbonate emanation, an equimolar mixture of barium carbonate and titanium dioxide and barium metatitanate, respectively, are illustrated in Figs. 1-3. Hence it may be seen that up to 920° the change in the formation of the mixture emanation corresponds to the conversions of the barium carbonate. Above 940° the course of the curves varies. There are no effects in connection with the formation of the eutectic $BaO \cdot 2BaCO_3$, its decomposition and the complete decomposition of $BaCO_3$. The emanation formation rate slows down between 990 - 1,100°. The reversible polymorphous conversions of the metatitanate begin at 1,210°. Two unknown cubic phases are formed. In conclusion, the authors state that the separation of emanation is satisfactorily expressed by a diffusion equation. The variation of the porosity of the sample on heating strongly affects the course of the polythermal

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Application of the Emanation Method for the Investigation of Processes Occurring With the Solid Substance on Heating

S/153/60/003/02/13/034
B011/B003

lines of emanation. The article under review was read at the 1. Mezhvuzovskaya konferentsiya po radiokhimii (Interuniversity Conference of Radiochemistry) in Moscow, April 20 - 25, 1959. Mention is made of L. S. Kolovrat-Chervinskiy. There are 4 figures and 12 references, 8 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova; Kafedra radiokhimii (Moscow State University imeni M. V. Lomonosov; Chair of Radiochemistry)

Card 4/4

ZABORENKO, K.B.; KOROBKOV, V.I.; RADOVICH, K.A.

Mechanism of the interstitial introduction of a radioactive isotope into the nuclear emulsion. Radiokhimiia 4 no.6:715-720 '62. (MIRA 16:1)

(Radioisotopes) (Photographic emulsions)

ZABORENKO, K.B.; FILIPPOVA, N.V.

Methods for the determination of the absolute quantities of ionium ($_{90}Th^{230}$). Zhur.anal.khim. 15 no.2:203-206 Mr-Ap '60. (MIRA 13:7)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Thorium--Isotopes)

SPITSYN, Vikt.I.; ZAPORENKO, K.L.; RADICHEVA, M.A.; BARESHKIN, A.M.

Use of the emanation method in the study of conversions of heteropolycompounds. Izv. AN SSSR. Otd. khim. nauk no. 1:5-11 Ja '61. (MIRA 14:2)

1. Moskovskiy gosudarstvennyy universitet im.M.V. Lomonosova.
(Barium phosphotungstate) (Radium—Isotopes)

MURAV'YEVA, I.A.; ZABORENKO, K.B.; NEMKOVA, O.G.; KHAN DE PIN

Determination of the solubility of precipitated alkali metal uranyl phosphates by the tracer method. Radiokhimiia 6 no. 1:124-127 '64. (MIRA 17:6)

ZABORENKO, K.B.; MELIKHOV, L.L.; PORTYANOY, V.A.

Complex emanation-thermal method. Radiokhimiia 7 no.3:319-326 '65.
(MIRA 18:7)

ZABORENKO, K.B.; POLYAKOV, V.B.; SHOKOSHEV, Yu.G.

Application of the complex emanation-thermal method to the study of phase diagrams as exemplified by the system KCl - $CaCl_2$. Radiokhimiia 7 no.3:324-329 '65. (MIRA 18:7)

ZABORENKO, K.B.; POLYAKOV, V.P.; SHOROSHEV, Yu.G.

Application of the complex examation-thermal method to the study of phase diagrams in the system CaO - Fe_2O_3. Radiokhimiia 7 no.3: 329-335 '65. (MIRA 18:7)

L 00030-66 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JG

ACCESSION NR: AP5020309 UR/0186/65/007/004/0480/0482

AUTHOR: Levina, M. Ye.; Shershev, B. S.; Zaborenko, K. B.

TITLE: Emanation study of the sodium beryllium trifluoride-sodium metaphosphate system

SOURCE: Radiokhimiya, v. 7, no. 4, 1965, 480-482

TOPIC TAGS: sodium compound, radioactivity measurement, phase diagram

ABSTRACT: The purpose of this investigation was to determine more accurately the phase diagram of $NaBeF_3$-$NaPO_3$ system, which was previously studied by means of thermal analysis, and to investigate chemical reactions of mixtures in solid state which would give additional data concerning this system. The phase diagram of the $NaBeF_3$-$NaPO_3$ system consists of a continuous series of solid solutions (Fig. 1 of the Enclosure). The methods and the apparatus for measurement of the emanation of pure compounds during heating are described in *Radiokhimiya*, 5, 360 (1963). Radiothorium chloride was introduced as an alcoholic solution into finely ground $NaBeF_3$ powder which was then thoroughly mixed and dried. The active $NaBeF_3$ was mixed in appropriate molar ratios with $NaPO_3$. The mixture was placed into a Pt crucible and

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L 00030-66
ACCESSION NR: AP5020309

heated in the metal block of an electric furnace. The temperature was measured with a Pt-Pt/Rh thermocouple. The ionization chamber was used for measuring the activity of thoron. The experimental data obtained by the emanation method verify the existence of a liquidus curve of the continuous series of solid solutions in the investigated system. Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 10Jul64 ENCL: 01 SUB CODE: IC, GC

NO REF SOV: 004 OTHER: 002

Card 2/3

L 00030-66
ACCESSION NR: AP5020309

ENCLOSURE: 01

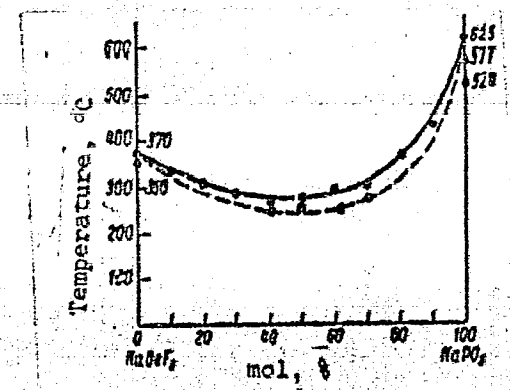

Fig. 1. Phase diagram of $NaBeF_3$-$NaPO_3$ system.

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ZABORENKO, K.B.; GUN SHU CHUN' [Kung Shu-ch'un]; MELIKHOV, L.L.; PORTYANOY, V.A.

Use of the complex emanation-thermal method for studying the decomposition of manganese and iron oxalates. Radiokhimiia 6 no.6:749-755 '64. (MIRA 18:2)

ZABORENKO, K.B.; KOROBKOV, V.I.

Effect of the pH of the impregnating solution on the track length of the α-particle in the nuclear photographic emulsion. Radiokhimiia 7 no.1:126-128 '65. (MIRA 18:6)

ZABORENKO, Kaleriya Borisovna; IOFA, Boris Zinov'yevich; LUK'YANOV, Valeriy Borisovich; BOGATYREV, Igor' Olegovich; KONDRASHKOVA, S.F., red.

[Radioactive-tracer technique in chemistry] Metod radioaktivnykh indikatorov v khimii. Moskva, Vysshaia shkola, 1964. 370 p. (MIRA 17:12)

ZABORENKO, K.B.; NITTSOL'D, D.; KOROBKOV, V.I.

Use of the method of microautoradiography for studying the distribution of radium in films of high molecular weight substances. Radiokhimiia 5 no.5:642-643 '63. (MIRA 17:3)

ZABORENKO, K.B.; BOGATYREV, I.O.; NITTSOL'D, D.

Periodic production of thorium X from preparations of radiothorium by the method of ion exchange chromatography. Radiokhimiia 5 no.5: 638-639 '63. (MIRA 17:3)

ZABORKO, Yu.M., inzh.

Hydraulic indicator of the level of loose materials. Mekh. stroi. 19 no.2:31 F '62. (MIRA 16:7)

(Level indicators)

ZABORENKO, K.B.; TETNER, R.; MELIKHOV, L.L.

Use of the emanation method in the study of calcium silicate hydrates. Radiokhimiia 5 no.3:360-369 '63. (MIRA 16:10)

(Calcium silicates) (Radon)

L 20992-66 EWP(c)/EWT(m)/T DIAAP WH
ACCESSION NR: AP5020310 UR/0186/65/007/C04/0483/0486
541.123.2:546.45'32'161+546.32'185:546.296'543.226

32
B

AUTHOR: Levina, M. Ye.; Shershev, B. S.; Zaborenko, K. B.

TITLE: Study of the KBeF$_3$-KPO$_3$ system by the radioactive emission method 19

SOURCE: Radiokhimiya, v. 7, no. 4, 1965, 483-486

TOPIC TAGS: fluoroberyllium glass, phosphate glass, optical glass, infrared glass filter, fluoroberyllate phosphate system, phase diagram, radioactive emission method

ABSTRACT: The phase diagram and solid-state chemical reactions of the KBeF$_3$-KPO$_3$ system have been studied by the radioactive emission method with emphasis on the region of the diagram in the [illegible] mol% KPO$_3$ range, the study of which had not been completed previously. The beryllium glasses formed in this region are the most transparent [illegible] infrared spectral regions, and the most weatherproof of all [illegible] may find application as new optical [illegible] system studied, [illegible] temperature of the sample [illegible] indicated that a chemical reaction in the solid state started at [illegible] DTA data obtained by the authors were confirmed, indicating the formation of a KBeF$_3$-KPO$_3$ compound with a melting point of 495—500C, which formed two eutectics

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L 20992-66

ACCESSION NR: AP5020310

with the pure components of the system. The peaks of the emission curves from the eutectic mixtures containing 20—35 mol% KPO_3 indicated that the melting begins at

[illegible] date for this part of the phase diagram. Orig. art. has: 5 figures. [JK]

ASSOCIATION: none

SUBMITTED: 10Jul64 ENCL: 00 SUB CODE: MT, NP

NO REF SOV: 002 OTHER: 008 ATD PRESS: 4069

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ZABORETZKY, Gyorgy

Some data on the clutch of "Damuvia." Auto motor 17 no.10:19 21 My'64.

ZABORETZKY, Gyorgy

The crankshaft of Danuvia. Auto motor 17 no.15:19 6 Ag '64.

ZABORETZKY, Gyorgy

Chain box and chain case of Danuvia. Auto motor 17 no.17:19
6 S'64..

ZABORETZKY, Gyorgy

Why does the Danuvia "flutter"? Auto motor 17 no. 4:19
21 F '64.

1. Danuvia Gyartmanyfejlesztesi Osztaly.

ZABORETZKY, Gyorgy

Front wheel telescopic shock absorber of Danuvia motorcycles. Auto motor 17 no. 8:19 21 Ap '64.

ZABORETZKY, Gyorgy

Electric equipment of Danuvia motorcycles. Pt.3. Auto motor 18 no.1: 22 6 Ja '65.

ZABORETZKY, Gyorgy

Electric equipment of Danuvia. Pt.4. Auto motor 18 no.3:20 6 F '65.

ZABORETZKY, Gyorgy

Electric equipment of Danuvia motorcycles. Pt 5. Auto motor 18 no.5:20 6 Mr '65.

ZABORSZKY, Gyorgy

Electric equipment of Danuvia motorcycles. Pt.2. Auto motor 18 no.9:20 6 My '65.

ZABORSZKY, Gyorgy

Electric equipment of the Danuvia motorcycle. Auto motor 17 no.23:20 6 D '64.

ZABORETZKY, Gyorgy

Electric equipment of Danuvia. Auto motor 17 no.21:19 6 N '64.

NOVIKOVA, E.T.; ZABORINA, N.B.; GORBUNOVA, A.A.; KOTLYAR, E.M.; GALITSKAYA, V.D.

Latex base heat and sound insulating materials for subflooring. Strci. mat. 11 no.8:17-18 Ag '65. (MIRA 18:9)

ZABORKO, Yu.M., inzh.

Device for determining the presence of material on a conveyer belt. Mekh. stroi. 19 no.4:24 Ap '62. (MIRA 15:9)
(Conveying machinery--Equipment and supplies)

MILYAVSKIY, M.L.; ZABORKO, Yu.M.

Device for testing the strength of concrete in construction elements. Suggested by M.L.Miliavskii, IU.M.Zaborko. Rats.i izobr.predl.v stroi. no.8:42-44 '58. (MIRA 13:3)

1. Nachal'nik laboratorii tresta No.3 (for Milyavskiy) 2. Glavnyy mekhanik tresta No.3 (for Zaborko). Po materialam Tekhnicheskogo upravleniya Ministerstva stroitel'stva SSSR.
(Concrete--Testing)

MILYAVSKIY, M.L.; ZABOREKO, Yu.M.

Laboratory press attachment used for testing materials of various strengths. Rats. i izobr. predl. v stroi. no.5:37-38 '58. (MIRA 11:6)

1.Trest No.3 (for Milyavskiy)
(Testing machines) (Building materials--Testing)

Zaboril, J.

AGRICULTURE

REZBA, J. ; ZABORIL, J. ; JANDA, V.

Toward great achievements. p. 146.

Vol. 3, no. 7, July 1958

Monthly Index of East European Accessions (EEAI) LC, Vol. 8, No. 4, April 1959

L 9455-66 EWT(m)/EWP(j) RM

ACC NR: AP5025011 SOURCE CODE: UR/0286/65/000/016/0075/0075

AUTHORS: Takhtarov, G. N.; Trofimovich, D. P.; Gerlakh, L. R.; Podshibyakina, G. S.; Zaborina, N. R.; Lazovskaya, R. A.; Yefimov, V. M.; Kalachev, V. A.; Sayorov, I. A.

ORG: none

TITLE: Foam generator for an installation for continuous mixing and foaming of latex mixtures. Class 39, No. 173911 [announced by the Scientific Research Institute for Rubber and Latex Products (Nauchno-issledovatel'skiy institut rezinovykh i lateksnykh izdeliy)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 75

TOPIC TAGS: foam generator, latex foamer, latex mixer, SYNTHETIC RUBBER, RUBBER WORKING MACHINERY

ABSTRACT: This Author Certificate presents a foam generator (see Fig. 1)

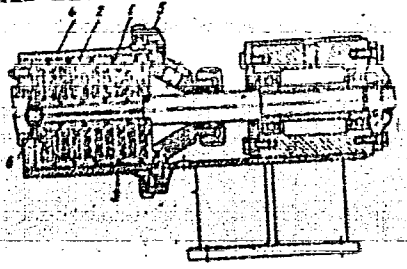

Fig. 1. 1 - Rotor; 2 - stator; 3 - seals; 4 - body; 5 and 6 - nuts.

Card 1/2 UDC: 678.021.1:621.117.115

L 9455-56

[illegible] latex mixtures. [illegible] mounted a rotor in the form of [illegible] which fit into the clearances [illegible] teeth mounted [illegible] disks. To increase the foaming [illegible] while increasing the [illegible] size, the rotor and stator consist [illegible] mounted through rotary seals inside a [illegible] art. has: 1 figure.

[illegible] SUB DATE: [illegible] Mar[illegible]

Card [illegible]

ZABORO, B., polkovnik; CHERVONOBAB, V., polkovnik; SHRAMCHENKO, A., polkovnik; KURKOV, A., polkovnik, kand.voyen.nauk

Tank attack in conjunction with motorized infantry; comments on the article published in no.1. Voen. vest 39 no.2:34-42 F '59. (MIRA 12:7)

(Tank warfare)

ZABRODSKIY, A.G.; POLOZHISHNIK, A.F.; RABINOVICH, B.D.

Research concerning the optimum systems for a rapid soft boiling of grains in alcohol distilleries. Izv.vys.ucheb.zav.; pishch.tekh. no.4:94-99 '62. (MIRA 15:11)

1. Ukrainskiy nauchno-issledovatel'skiy institut spirtovoy i likerovodochnoy promyshlennosti; laboratoriya tekhnologii spirtovogo i drozhzhevogo proizvodstva i laboratoriya oborudovaniya, mekhanizatsii i avtomatizatsii proizvodstva. (Distillation)

S/019/60/000/015/037/091
A152/A029

AUTHORS: Sokolov, B.G., Glazunov, S.G., Zaboronok, G.F., Morozov, Ye.I., Ivanov, A.I. and Khromov, A.M.

TITLE: A Method of Casting Tubes and Hollow Blanks From High-Melting Alloys

PERIODICAL: Byulleten' izobreteniy, 1960, No. 15, p. 47

TEXT: Class 31c, 1802. No. 130638 (645516/22 of November 27, 1959). This method has the following special feature: to simultaneously melt the charge and form the casting, the charge is introduced into the furnace in accordance with the diameter of the tube. The charge itself constitutes the electrode that goes up in the process of rotation, while a second electrode goes down at the same time.

Card 1/1

ZABORONOK, Georgiy Fomich; ZELENTSOV, Tarigan Ivanovich; RONZHIN, Arkadiy Stepanovich; SOKOLOV, Boris Grigor'yevich

[Electron beam melting of metals] Elektronnaia plavka metallа. [By] G.F.Zaboronok i dr. Moskva, Metallurgiia, 1965. 291 p. (MIRA 18:4)

L 10404-66 EWT(d)/EWT(m)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l)/EWA(h)
ACC NR: AM5025342 JD/JW Monograph UR/

Zaboronok, Georgiy Fomich; Zelentsov, Tarigan Ivanovich; Ronzhin, Arkadiy Stepanovich; Sokolov, Boris Grigor'yevich

Electron melting of metal (Elektronnaya plavka metalla) Moscow, Izd-vo "Metallurgiya," 1965. 291 p. illus., biblio. Errata slip inserted. 2700 copies printed.

TOPIC TAGS: metal melting, electron metal melting, electron alloy melting, electron melting unit, electron melting furnace, vacuum equipment

PURPOSE AND COVERAGE: This book is intended for engineering personnel of electrometallurgical plants and machine works, scientific workers of research [illegible] and engineering schools of higher [illegible]. The book presents copious information on electron-beam melting [illegible] electron beams, and [illegible] properties of [illegible] chemical processes involved in electron melting are also discussed.

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Foreword -- 5

Card 1/4 UDC: 621.3.032.269.1

L 10404-66
ACC NR: AM5025342

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L 10404-66
ACC NR: AM5025342

3

Card 3/4

SUB CODE: MM/ SUBM DATE: 18Dec64/ ORIG REF: 067/ OTH REF: 06

Card 4/4

ACC NR: AP7002439 (A) SOURCE CODE: UR/0219/66/000/012/0049/0050

AUTHOR: Zaboronok, G. F.; Milova, V. B.; Polyakova, M. D.; Simonishvili, T. V.

ORG: none

TITLE: Some properties of unalloyed polycrystalline molybdenum

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 12, 1966, 49-50

TOPIC TAGS: molybdenum, polycrystal, arc furnace, tensile strength, plasticity, annealing, embrittlement

ABSTRACT: The material was remelted without deoxidation in a JEVM-03 electron-beam furnace, and cast into ingots 25 mm in diameter and up to 300 mm high. The following melting conditions were used: the feed rate of the rod was 10-20 mm/min, the melting rate was 23.7-47.4 g/min, and the pressure was $2 \cdot 10^{-4}$-$7 \cdot 10^{-5}$ mm Hg. Impurity contents are given for the original and remelted molybdenum. After remelting the O_2 content decreased from $6 \cdot 10^{-3}$ wt % to $4 \cdot 10^{-4}$ wt %. The ingots were hot worked into rods and billets, cold worked, and recrystallized by annealing in a vacuum for 10 hr at 1000°C. Results are given on the hardness, microhardness, electrical resistivity, elastic modulus, and other elastic properties determined by the resonance method. The ultimate tensile strength and ductility are given as functions of annealing temperature. Annealing was done at a residual pressure which did not exceed $1 \cdot 10^{-4}$ mm Hg.

Card 1/2 UDC: 669.28:620.17

ACC NR: AP7002439

At a deformation rate of 3 mm/min, the ultimate strength decreased as a function of annealing temperature, the greatest decrease occurring at 1000-1200°C. The relative elongation went through a maximum (16.4%) after annealing at 800°C. Orig. art. has: 1 figure, 2 tables.

SUB CODE: 11/ SUBM DATE: none

Card 2/2

L 36867-66 EWT(m)/EWP(k)/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6023618 SOURCE CODE: UR/0136/66/000/007/0083/0085

AUTHOR: Zaboronok, G. F.; Milova, V. B.; Polyakova, M. D.; Simonishvili, T. V.

ORG: none

TITLE: Effect of ultrasonic vibration on the structure of electron-beam melted molybdenum

SOURCE: Tsvetnyye metally, no. 7, 1966, 83-85

TOPIC TAGS: molybdenum, molybdenum melting, electron beam melting, ultrasound application, ultrasound effect, molybdenum property, CRYSTALLIZATION

ABSTRACT: The effect of subsonic and ultrasonic vibrations on the crystallization of molybdenum, electron-beam melted in a $5 \cdot 10^{-4}$ mm Hg vacuum, has been investigated. Subsonic vibrations at a frequency of 1000 cycle/min reduced the grain size from 3—5 mm to 2—3 mm. Ultrasonic vibrations with a frequency of 2—18 kilocycle substantially reduced the grain size in the transverse direction but had very little effect on the grain size in the longitudinal direction, leaving the columnar structure unchanged. The Brinell hardness of molybdenum melted with ultrasound amounted to 153—156 kg/mm^2, i.e., was of the same order as that of molybdenum melted without ultrasound. Preforged

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ACC NR: AP6023618

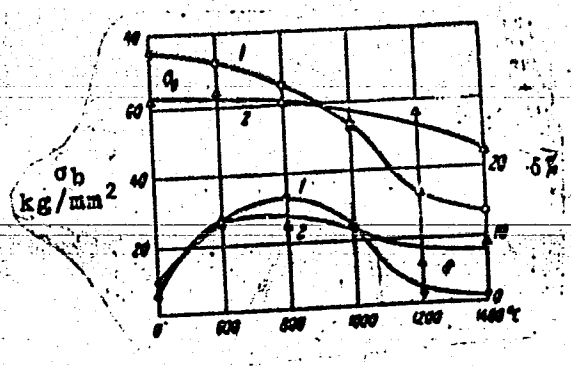

Fig. 1. Effect of annealing temperature on strength (σ_b) and elongation (δ) of molybdenum electron-beam melted without (1) or with (2) ultrasound

ingots were rolled into sheets 1 mm thick. The respective tensile strength and elongation of cold-rolled sheets melted with ultrasound were 75.0 kg/mm^2 and 4.8% compared to 62.1 kg/mm^2 and 2.8% for conventionally electron-beam melted metal. Vacuum annealing at 600--1400C for 1 hr greatly affected the strength and ductility of conventionally melted metal, but affected much less those of metal melted with the application of ultrasound (see Fig. 1). Further research should include the application of 1) ultrasonic generators and transducers which would ensure the maximum amplitude in crystallization zone, 2) ultra-

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sonic waves in the direction perpendicular to the ingot axis, 3) ultrasonic waves propagating in two mutually perpendicular directions, and 4) ultrasound combined with modifiers. Orig. art. has: 5 figures and 1 table.

SUB CODE: 13, 11/ SUBM DATE: none/ ATD PRESS: 5040 [ND]

Card 3/3 mlp

ZABOROWSK, R.

How to rebuild the "Leningrad" enlarger. Sov.foto 20 no.2:36 F '60. (MIRA 13:7)
(Photography--Equipment and supplies)

ZABOROVOE, B., (Moskva)

View finder. Sov.foto 19 no.7:47-48 Jl '59. (MIRA 12:11)
(Photography--Equipment and supplies)

ZABORONOK, R.

Side viewfinder. Sov.foto 22 no.3:40 Mr '62. (MIRA 15:2)
(Cameras--Equipment and supplies)

ZABOROS, K.

Cultivating activities on poplar plantations. p. 4.

LAS POLSKI. (Ministerstwo Lesnictwa Oraz Stowarzyszenie Naukowo-Techniczne Inzynierow i Technikow Lesnictwa i Drzewnictwa) Warszawa, Poland, Vol. 32, no. 7, Apr. 1958.

Monthly List of East European Accession (EEAI) LC, Vol. 9, no. 1. Jan. 1960. Uncl.

K

COUNTRY : Poland
CATEGORY : Forestry. Forest Cultures.

ABS. JOUR. : RZhBiol., No. 4, 1959, No. 15507

AUTHOR : Zaboros, Krzysztof
INST. : --
TITLE : Observations on the Laying of Poplar Plantations.

ORIG. PUB. : Las polski, 1958, 32, No.1, 9-11

ABSTRACT : The author presents the fundamental agro-technical concepts for the laying of poplar plantations in the environment of Poland. For extensive industrial application there are recommended Populus serotina, P. marilandica, P. robusta, P. regenerata, P. vernirubens, and P. Bachelierii. For industrial experimentation there are recommended: P. canescens, P. alba, P. nigra v. typica, P. berolinensis, P. hybrida 277, P. delt. var. monilifera, P. delt. v. missouriensis (the latter 3 types on a very limited scale). The optimal physical-chemical properties of the soil, types of forest vegetative conditions, schemes of cultures, and methods of preparation are described for several types of elm cultures. Methods are cited for the reproduction of poplar seedlings, grafts, and pickets, and procedures are also given for the preparation of planting material.
-- S.M. Stoyko

CARD: 1/2

30

ABS. JOUR. : RZhBiol., No. 4, 1959, No. 15507

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT :

CARD: 2/2

ZABOROS, K.

AGRICULTURE

Periodicals: LAS POLSKI

ZABOROS, K. Remarks concerning the article " Cultivation of Popular in France," published in Las Polski, Nol. 13, 1957. p. 14

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 2, February 1959, Unclass.

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The cutting and planting of poplar scions. p. 16.
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SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 7, July 1957. Uncl.